REMARKS

At first, Applicant appreciates that the Examiner conducted a telephone interview with the representative of the Applicant on February 11, 2005. During the interview, Claims 21, 22, 25 and 26, and the reference Augenbraun et al. (US 5,654,759) were discussed. The Examiner agreed to reconsider the rejection under 35 U.S.C. § 102 when amendment is filed to clarify the claimed "per pixel" or "level."

Applicant recognizes with appreciation that, in the office action of November 17, 2004, the Examiner indicated that Claims 1 and 8 have been allowed and Claims 23, 24, 27, and 28 would be allowable if rewritten in independent form including all the limitations of the case claim and any intervening claims.

In this Amendment, Applicant has amended Claims 21 and 25 to specify the embodiments of the present invention and overcome the rejections. It is respectfully submitted that no new matter has been introduced by the amended claims. All claims are now present for examination and favorable reconsideration is respectfully requested in view of the preceding amendments and the following comments.

REJECTIONS UNDER 35 U.S.C. § 102:

Claims 21 – 22 and 25 – 26 have been rejected under 35 U.S.C. § 102 (b) as allegedly being anticipated by Augenbraun et al. (US 5,654,759), hereinafter Augenbraun.

Applicant traverses the rejection and respectfully submits that the presently claimed invention is not anticipated by the cited reference. It is respectfully submitted that Claims 21 and 25 have been amended to specify that the differentiator or the differentiation step differentiates the input video signal "at every neighbouring pixel" to obtain a differentiated signal. Claims 22 and 26 also include this feature due to their dependency on Claims 21 and 25, respectively. The amendment is supported by FIGS.

3A and 3B. FIG. 3A shows input video signal components for five pixel blocks. Each pixel block consists of eight pixels (page 7, lines 11 to 15). Each dot in these figures represents one pixel. The differentiated video signal shown in FIG. 3B indicates that the input video signal is differentiated <u>at every neighbouring pixel (not per pixel block)</u>. As discussed in the interview, this feature is not disclosed or suggested in Augenbraun.

In addition, the Examiner indicates that the blockiness identification circuit 202 in Augenbraun employs a cost function to identify video data corresponding to blocky frames or images which refer to the claimed solitary differentiated points. It seems that the Examiner refers to Fig. 5 in Augenbraun and indicates that the discontinuities at the block boundaries correspond to the claimed solitary differentiated points.

However, the claimed first detector detects solitary differentiated points on the differentiated signal, not the block boundaries as required in Augenbraun. Augenbraun does not disclose or teach this processing. In addition, Augenbraun does not disclose the claimed first detection signal having <u>a first level for each</u> solitary differentiated point and <u>a second level for each</u> portion of the differentiated signal at which no solidary differentiated point is detected. In other words, all the solitary differentiated points will be at the same first level. Each portion of the differentiated signal where no solidary differentiated point is detected will be at the same second level. As discussed in the interview, this feature is not disclosed or suggested in Augenbraun.

Furthermore, the Examiner indicates that the claimed first detection signal and the first delay signal correspond to the signal representing the first and second blocks shown in Fig. 7 of Augenbraun. However, this figure illustrates the block noise <u>reduction</u> performed by the blockiness reduction circuit 212 (Fig. 2), according to col. 9, lines 13 to 16, and col. 10, lines 10 to 12 and lines 62 to 67, which has no relationship to block noise <u>detection</u>.

The Examiner indicates that the claimed first additional signal, in which the first detection signal and the first delay signal are added to each other, is given by the adder 12

in Fig. 1 of Augenbraun. However, the signal (received video) to be supplied to the adder 12 (the first summer 12 in col. 3, line 61) of the encoder 10 is a video signal which is not coded yet and hence not decoded yet, according to the description in col. 3, lines 37 to 56, particularly, lines 37 to 41 and lines 51 to 54. Therefore, the signal to be subject to processing is different from the claimed input video signal that has been coded and decoded per pixel block.

Moreover, the first summer 12 in Augenbraun <u>subtracts</u> a motion-compensated signal supplied by the motion compensation circuit 28 from the received video signal to output a prediction error. Thus, the first summer 12 is really a subtractor, <u>not an adder</u>, and has no relationship to block-noise detection, nor is used in block-noise detection. The received video signal and the motion-compensated signal are apart in time from each other, or the latter signal is delayed, by <u>a period of one or several frames</u> under the MPEG-2 standard (col. 1, lines 20 and 21) which is different from the claimed period corresponding to <u>a total number of pixels</u> in a horizontal direction in each pixel block.

In addition, there is no description in Augenbraun that the block 2 is delayed by a period corresponding to the total number of pixels of the block 1 on the horizontal direction. Fig. 7 illustrates the block noise <u>reduction</u> performed by the blockiness reduction circuit 212 (Fig. 2), which has no relationship to block noise <u>detection</u>.

The Examiner indicates that the claimed first additional signal thus delayed being fed back to the first processor as the first delay signal corresponds to the output from the motion compensation circuit 28 to the adders 12 and 24 in Fig 1 of Augenbraun. However, the feedback circuitry in Fig. 1 of Augenbraun has no relationship to block noise detection. In other words, the adders 12 and 24 and the motion compensation circuit 28 are not used in <u>block noise detection</u> but <u>MPEG motion-compensated predictive coding</u>. More specifically, the adder 12 outputs a prediction error by subtracting a motion-compensated signal supplied by the motion compensation circuit 28 from the received video signal. The adder 24 reconstructs a video signal corresponding to the received video signal by adding the motion-compensated signal and a reproduced

prediction error that has been coded through the DCT 14 and the quatizer 16, and then reproduced through the inverse quantizer 20 and IDCT 22.

In summary, Augenbraun does not disclose the differentiator, the first detector and the first processor and the corresponding processes defined in Claims 21, 22, 25 and 26, especially the feature that the differentiator or the differentiation step differentiates the input video signal "at every neighbouring pixel" to obtain a differentiated signal.

Therefore, the newly presented claims are not anticipated by Augenbraun and the rejection under 35 U.S.C. § 102 (b) has been overcome. Accordingly, withdrawal of the rejections under 35 U.S.C. § 102 (b) is respectfully requested.

Having overcome all outstanding grounds of rejection, the application is now in condition for allowance, and prompt action toward that end is respectfully solicited.

Respectfully submitted,

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